

WHAT IS CLAIMED IS:

1. An antenna assembly for a cellular telephone, comprising: a solid dielectric core, and a two-terminal balanced antenna assembly including an electrical conductor on said solid dielectric core; said electrical conductor being configured and dimensioned to be matched to the operating frequency band of the cellular telephone communication band and terminating at each of its opposite ends in a common feed point connection such as to provide a two-terminal balanced antenna assembly having an isotropic radiation pattern and reduced electromagnetic field radiation.

2. The antenna assembly according to Claim 1, wherein said electrical conductor is configured to define a first electrically-conductive loop in a first plane, and a second electrically-conductive loop in a second plane orthogonal to said first plane; said first and second electrically-conductive loops being connected in series with said common feed point connection to provide said two-terminal balanced antenna assembly.

3. The antenna assembly according to Claim 2, wherein said first and second electrically-conductive loops are located and electrically connected such that: one-half of said first loop is in said first plane and is connected at one end to a first feed point connection; said second loop is fully in said second plane orthogonal to said first plane and is electrically connected at one end to the opposite end of said one-half of the first loop; and the remaining one-half of said first loop is in said first plane and is electrically connected between the opposite end of said second loop and a second feed point connection.

4. The antenna assembly according to Claim 2, wherein each of said loops is of a length equal to one-half the wavelength of a predetermined frequency within the

operative frequency band of the antenna assembly, such that the antenna assembly is of one full wavelength.

5. The antenna assembly according to Claim 2, wherein each of said loops is of a length equal to one-quarter wavelength of a predetermined frequency within the operative frequency band of the antenna assembly, such that the antenna assembly is of a one-half wavelength.

6. The antenna assembly according to Claim 2, wherein each of said loops is of rectangular configuration.

7. The antenna assembly according to Claim 2, wherein each of said loops is of square configuration.

8. The antenna assembly according to Claim 1, wherein said electrical conductor is of flat cross-section.

9. The antenna assembly according to Claim 1, wherein said electrical conductor includes an electrically-conductive wire extending axially through said core, and an electrically-conductive helix extending around the outer surface of said core; one end of said electrically-conductive wire and one end of said electrically-conductive helix being electrically-connected together; the opposite ends of said electrically-conductive wire and said electrically-conductive helix constituting common feed terminals defining said common feed point connection.

10. The antenna assembly according to Claim 9, wherein said dielectric core is of a cylindrical configuration.

11. The antenna assembly according to Claim 1, wherein said solid dielectric core is a material selected from the group of aluminum oxide, aluminum nitride, silicon nitride, zirconium oxide, and a ferroelectric dielectric.

12. A two-terminal balanced antenna assembly for a transceiver of a wireless communication device, comprising: a first electrically-conductive loop in a first plane; a second electrically-conductive loop in a second plane orthogonal to said first plane; and a solid dielectric core; said first and second electrically-conductive loops being connected in series with a common feed point connection, to provide a two-terminal balanced antenna assembly having reduced electromagnetic field radiation from the body of a transceiver when attached thereto in comparison to a monopole antenna of comparable gain.

13. The antenna assembly according to Claim 12, wherein said first and second electrically-conductive loops are located and electrically connected such that: one-half of said first loop is in said first plane and is connected at one end to a first feed point connection; said second loop is fully in said second plane orthogonal to said first plane and is electrically connected at one end to the opposite end of said one-half of the first loop; and the remaining one-half of said first loop is in said first plane and is electrically-connected between the opposite end of said second loop and a second feed point connection.

14. An antenna assembly for a wireless communication device, comprising: a first electrically-conductive loop constituted of two half-loops both disposed in a first plane; and a second electrically-conductive loop disposed in a second plane orthogonal to

said first plane and located between said two half loops; said first and second loops being connected together in series with a common feed point.

15. The antenna assembly according to Claim 14, wherein: one-half of said first loop is in said first plane and is connected at one end to a first feed point connection; said second loop is fully in said second plane orthogonal to said first plane and is electrically connected at one end to the opposite end of said one half-loop; and the other one-half of said first loop is in said first plane and is electrically-connected between the opposite end of said second loop and a second feed point connection.

16. The antenna assembly according to Claim 14, wherein said first and second loops enclose a block of a solid dielectric material.

17. The antenna assembly according to Claim 14, wherein each of said loops is of rectangular configuration.

18. A two-terminal balanced antenna assembly for a transceiver of a wireless communication device, comprising: a dielectric core; an electrically-conductive wire extending axially through said core; and an electrically-conductive helix extending around the outer surface of said core; one end of said electrically-conductive wire and one end of said of electrically-conductive helix being electrically-connected together; the opposite ends of said electrically-conductive wire and said electrically-conductive helix constituting common feed terminals, such as to provide a two-terminal balanced antenna assembly having reduced electromagnetic field radiation from the body of a transceiver when attached thereto in comparison to a monopole antenna of comparable gain.

19. The antenna assembly according to Claim 18, wherein said dielectric core is of a cylindrical configuration.

20. The antenna assembly according to Claim 18, wherein the dielectric material of said dielectric core is selected from the group of aluminum oxide, aluminum nitride, silicon nitride, zirconium oxide, and a ferroelectric dielectric.